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ABSTRACT

The Tell-Me-A-Story (TEMAS) Culturally Sensitive Test was administered to 74 Puerto Rican students in a New York City school in order to measure such personality resources as conflict resolution skills and cognitive structuring of narratives. The resulting data was used to examine the degree to which these early adolescents' personality resources correlated with school achievement and performance. Overall, students exhibited relative strengths in personality adjustment and intact narrative cognitive skills. Significant grade differences were found in the school achievement and performance measures: sixth graders showed significantly higher achievement and performance scores than junior high school students. Researchers drew two inferences from the results of this study: (1) that there are grade specific effects during the middle school period of early adolescence; and (2) that to some extent socio-cognitive skills (as measured by the TEMAS) are related to school achievement and performance. The results of this study underscored the importance of culturally sensitive psycho-educational techniques with minority children: with the TEMAS, these students showed great disclosure and intact narrative cognitive skills. They were resilient in many areas of their personality adjustment, and reported a satisfactory view of their academic progress. Three tables present data and statistical analysis. Contains 23 references. (TS)

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SOCIO-COGNITIVE CORRELATES TO SCHOOL ACHIEVEMENT USING THE TEMAS (TELL-ME-A-STORY) CULTURALLY SENSITIVE TEST WITH SIXTH, SEVENTH, AND EIGHTH GRADES AT RISK PUERTO RICAN STUDENTS

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According to several mental health and educational indicators, mainland Puerto Rican children seem at risk for emotional disorders and academic underachievement (Canino, 1994; Canino, Earley & Rogler, 1980; Reyes, 1992; Rodriguez, 1989; Rodriguez, 1992; Rogler, Malgady & Rodriguez, 1989; Rogler, Santana Cooney, Costantino, Earley, Grossman, Gurak, Malgady & Rodriguez, 1983). Acculturation, language, educational and socioeconomic barriers have placed Puerto Ricans at high risk of mental disorder, alcohol/substance abuse, and high school dropout (New York City Board of Education, 1990; Padilla, 1992; Rogler, Malgady & Rodriguez, 1989). Despite the negative outcomes associated with at risk conditions, anecdotal experience suggests that many Puerto Rican children adapt well and are successful in the New York City Public Schools. Thus, it is important to study what resources Puerto Rican children might exhibit while coping with problematic life situations and how do these coping skills relate to their school functioning.

Some of the academic problems and relative strengths of Puerto Rican children might be misassessed because most educational and psychological tests have been standardized on non-minority groups. There is a need to develop psychological tests for reliable and valid personality and cognitive assessment of minority children (Dana, 1993; Padilla, 1992). A non-biased alternative is available in the culturally sensitive thematic apperception test known as TEMAS (Tell-Me-A-Story) (Costantino, 1986; Costantino, Malgady & Rogler, 1988). The TEMAS test has been standardized with Puerto Rican children in New York City and in Puerto Rico (Costantino, Malgady, Casullo & Castillo, 1991; Costantino, Malgady & Rogler, 1988).

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The TEMAS consists of chromatically attractive, ethnically relevant pictures about conflictual situations at home, school and community. The test is scored according to the personality and cognitive functioning evident in the thematic content and structure of narratives elicited to describe the conflicts depicted in the TEMAS pictures.

Research in several areas are relevant when considering the relationship between personal resources and school functioning. In the risk literature, personality attributes and cognitive competence have been interrelated (Garmezy, 1974; Garmezy & Devine, 1984; Garmezy, Masten & Tellegen, 1984), and coping skills have been associated with adaptive functioning and school achievement (Cohler, 1987; Feldman, Rubin Stiffman & Jung, 1987; Murphy & Moriarty, 1976). The ability to resolve conflicts has been related to cognitive development (Mugny & Carugati, 1989), and poor negotiation skills have been identified as one of the factors hindering academic success (Montero-Sieburth, in press). Therefore, coping skills displayed in well developed narratives may demonstrate a positive relationship with school achievement.

The current study addressed how do personality resources such as conflict resolution skills and cognitive structuring of narratives as measured by the TEMAS correlate to school achievement and performance during early dolescence. The hypothesis was that there would be relationships between the TEMAS personality variables (Interpersonal Relations, Control of Aggression, Achievement Motivation, Delay of Gratification, and Self-concept of competence) and cognitive variables (Verbal Fluency, Narrative Omissions, Recognition of Conflict, Temporal Sequencing, Narrative Imagination, Relationships among Characters, and Narrative Transformations) with the school achievement and performance measures. School achievement was measured by standardized reading (Degree of Reading Power) and math (California Achievement Test) tests and the performance measure was a global rating made by the teacher. Also, students and teachers were interviewed to

collect demographic data about the participants and information relevant to school functioning.

Seventy-four Puerto Rican students were sampled, males and females from sixth, seventh and eighth grades. The students were of low socio-economic status with ages ranging from 11 to 15 years (M = 12.7; SD = 1.2). The study was conducted in school district I in New York City. With the agreement of school administrators and teachers, Puerto Rican students were recruited from regular education classrooms. Bilingual consent letters were signed by the parents approving the release of academic records and allowing the volunteers to participate in the study.

Students told stories in reaction to the TEMAS pictures. They were shown a total of nine cards which is the short form of the instrument. Language of test administration was predominantly English but bilingual (Spanish) support was offered as needed. Children's narratives were tape recorded and all testing was conducted in the school setting. Student and teachers were interviewed as well.

Each TEMAS personality variable was scored by rating the adaptiveness of the resolution proposed by the child. Scores were rated on a 4-point ordinal scale, ranging from 1 (highly maladaptive) to 4 (highly adaptive). The mean scores for each personality scale were then converted to normalized T-scores (Mean T = 50; SD = 10) with the use of TEMAS norms organized by age and ethnic group. The cognitive scales were ordinal (e.g., the number of omissions of narrative elements) or nominal (e,g., the child either recognized the conflict depicted in the card or did not recognize it). The nominal scales were scored against a table of critical cutoff points specific for age and ethnicity. A score at or above the 90th percentile was deemed significant and marked as such.

The design was cross-sectional using correlational procedures. Sex, grade, and length of residence in New York were analyzed as potential covariates to the correlations examined between the TEMAS variables of interest with the school achievement and performance measures. Partial correlations of the entire sample

were performed for the relationships examined between the TEMAS personality and cognitive variables with the achievement and performance measures, controlling for relevant covariates. Finally, correlations between the personality and cognitive variables with the achievement and performance measures were conducted for each grade separately. The reliability of the TEMAS scales was assessed by comparing the scores independently given by the researcher with those given by another clinician with expertise in the TEMAS. Reliability was not calculated for the Fluency variable for it required a simple word count. Three trials of interraters' scoring that included from ten to fifteen protocols were needed to obtain adequate reliabilities which ranged between .73 to .87.

Overall, students exhibited relative strengths in personality adjustment and intact narrative cognitive skills. For the total sample, most personality variables showed T-scores in the low-average range indicating functional adjustment in the areas of Interpersonal Relations ($\underline{M}$ = 41.00; $\underline{SD}$ = 10.48), Aggression ($\underline{M}$ = 40.45; $\underline{SD}$ = 7.75), Delay of Gratification ($\underline{M}$ = 47.70; $\underline{SD}$ = 13.55), and Self-concept ($\underline{M}$ = 44.46; $\underline{SD}$ = 10.70). The Achievement Motivation scale scored below-average ($\underline{M}$ = 39.11; $\underline{SD}$ = 13.08) indicating mildly maladaptive development of this theme. Students showed very high verbal Fluency ($\underline{M}$ = 2480.82; $\underline{SD}$ = 1097.24). The scale of narrative Omissions suggested a partially adaptive attentional deployment ($\underline{M}$ = 35.97; $\underline{SD}$ = 8.56), and 81%% of the students showed a functional ability to project imaginative information. The variables of Relationships and Sequencing were not analyzed since most students mastered these skills and the scales did not exhibit enough variability. Some perceptual-cognitive difficulties were of clinical concern such as the inability to perceive the psychological conflict in the stories and distortion of its narrative elements. Fifty percent of the students omitted the conflict and 23% of the students significantly transformed the characters, events or settings, depicted in the pictures.

Significant grade differences were found in the school achievement and performance measures. Sixth graders showed significantly higher achievement and performance scores than junior high school students. To examine further these results, a longitudinal follow-up of the sample is in progress to clarify the issue of higher academic risk in junior high school. When grade was partialled out analyzing the total sample, no significant correlations were found between the TEMAS variables of interest and the achievement and performance measures. However, moderate correlations were found separately by grade, with Achievement Motivation consistently showing the strongest correlations with achievement and performance. For sixth graders, moderate correlations were found between Interpersonal Relations with reading and math, Aggression and math, Achievement Motivation with reading and math, Delay of Gratification with reading and math, and Conflict with math and performance (see Table 1). For seventh graders, moderate correlations were found between Aggression and performance, Achievement Motivation and performance, Delay of Gratification with math and performance, Fluency and math, Conflict and math, and Imagination and performance (see Table 2). For eighth graders, moderate correlations were found between Aggression and reading, Achievement Motivation with math and performance, Delay of Gratification with reading and performance (see Table 3).

Two inferences were drawn, that there are grade specific effects during the middle school period of early adolescence and that to some extent socio-cognitive skills as measured by the TEMAS are related to school achievement and performance. With a culturally sensitive test, these students showed great disclosure and intact narrative cognitive skills. They were resilient in many areas of their personality adjustment and reported a satisfactory view of their academic progress. There were some methodological issues in the study such as limited variability in the achievement scores, lack of sensitivity of the TEMAS cognitive scales, and problems

with the teacher rated performance scale. The results of this study underscored the importance of culturally sensitive psycho-educational techniques with minority children. These findings are consistent with other studies. A study by Bernal (1991) with Mexican American children concluded that the TEMAS did not penalize for acculturation and was a more culturally sensitive and thus valid projective test to assess school adjustment among Mexican American children than the Robert's Apperception Test. A more recent study by Walton, Nuttall and Vazquez-Nuttall (1995) with Salvadorean children indicated a very strong correlation between Achievement Motivation as measured by the TEMAS and adaptive behavior and school achievement.

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Table 1

Correlations of TEMAS scales with Achievement and Performance measures in Sixth graders (n = 25)

TEMAS scale	Reading	Math	Performance
	r	r	r
	(p)	(p)	(p)
Interpersonal	.48	.45	
Relations	.02	.02	
Control of		.40	
Aggression		.05	
Achievement	.53	.43	
Motivation	.01	.03	
Delay of	.33	.52	
Gratification	.12	.01	
Recognition of		.30	.33
Conflict		.14	.12

Table 2

Correlations of TEMAS scales with Achievement and Performance measures in Seventh Graders (n = 27)

TEMAS scale	Reading r (p)	Math r (p)	Performance r (p)
Control of			.34
Aggression			.08
Achievement			.46
Motivation			.02
Delay of		.32	.39
Gratification		.12	.04
Verbal		.36	
Fluency		.13	
Recognition of		-.38	
Conflict		.07	
Narrative			-.30
Imagination			.20

Table 3

Correlations of TEMAS scales with Achievement and Performance measures in Eighth Graders (n = 22)

TEMAS scale	Reading r (p)	Math r (p)	Performance r (p)
Control of	.34		
Aggression	.13		
Achievement		.47	.51
Motivation		.02	.01
Delay of	.30		.32
Gratification	.18		.14